



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,402	05/04/2001	Bogdan Serban	33918R008	9004

7590

03/04/2003

Smith, Gambrell & Russell, LLP
The Beveridge, DeGrandi, Weilacher & Young
Intellectual Property Group
1850 M. Street, N.W., Suite 800
Washington, DC 20036

EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,402

Applicant(s)

Serban

Examiner

Karl Easthom

Art Unit

2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Jan 9, 2003

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 15-41 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 15-41 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____

3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

6) ☐ Other:

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15, 19-20, 23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukui et al. Fukui et al. discloses the claimed invention at Fig. 43 with semiconductive stretch sensitive material 72' and electrodes 74' (see Fig. 42) with the cloth 81 having the bottom surface of the electrodes 74' in intimate contact therewith. That is, the structure of Fig. 81 can be view flipped over, so that cloth 81 is on the bottom. The electrode portion 74' is in intimate contact with fabric 81. That is, Fig. 43 is similar to the Fig. 41 device except a fabric 81 is stitched to both surfaces of the device, and the part 71" is missing. In claims 19-20, the support is woven or unwoven fabric at col. 24, lines 19-26. In claim 23, the coating 72' is stuck on the electrodes, and the elastomer is disclosed at col. 13, lines 25-40. In claim 25, the bottom stitching 81 meets the claim where the device has two stitchings, or the coating or plating at cols. 6-7 meets the claims. For claims 26-27, the seat detector is disclosed at col. 21, lines 50-52.

3. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Taylor et al. (WO 97/18450). The claimed invention is disclosed at Figs. 27-20 where the electrode structures 233 on flexible fabric 231 and semiconducting material 222 in contact therewith.

4. Claims 18, 31, and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Reinhold et al. (DE 42374702). The claimed invention is disclosed at Fig. 4a, according to the English comments by the of the PCT examiner in the international preliminary examination report.

That is the semi-conductor layer is in close contact with the electrode structures, where elements 12 appear to be the divided zones on electrodes 13. In claim 36, there is a printing operation. In claim 37 the elastomer is "deposited" on the structures and first surface where the opposite polymer sheet is placed upon the other.

5. Claims 15, 18, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Franz.

Franz discloses the claimed invention at Fig. 1 with flexible support 14 of polyester 9 (inherently flexible), electrode structures 28, and semiconducting material 18. The polyester is a "fabric" where there is no definition of what is encompassed by the term (see Kurumatani et al. for a similar type of plastic fabric). Claim 18 does not require a fabric.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui in view of Reinhold et al. (DE 42374702). Fukui discloses the claimed invention except the position of the seat sensor. Reinhold discloses a vehicles seat sensor for detecting a person on a seat. It would have been obvious to employ the sensor of Fukui in a vehicle where Reinhold teaches use of such a sensor therefor and Fukui discloses use of the detector to detect the presence of persons in a seat as noted above. In claims 27-29, the sensor of Reinhold is all over the seat, including a portion where the head would rest.

8. Claims 15-17, and 19-23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirby or Franz in view of Fukui et al. Kirby at the sole figure or Franz at Figs. 1 or 10 (see above) disclose the claimed invention except the fabric as the insulating support. Fukui discloses stretch sensitive inks employed on a fabric at col. 5 in order to detect minute changes, and discloses use in a diaphragm for pressure sensing at col. 21, lines 64-67. The inks of Kirby, at col. 13, lines 24-45, are also disclosed as useful on a diaphragm at col. 4, lines 35-44, but. In claim 22 etching is a known way of creating conductors, and it would have been obvious to employ such a method for that purpose. Alternatively, etching is not required since the end product would not differ by the manner of removing material. Kirby discloses inks, and elastomers, and printing at col. 3, meeting claims 16-17, 21-23. Franz discloses polyester substrates and pressure sensors, and polyester is known to be flexible and employed in fabrics, while Fukui employs pressure sensor material on a fabric for added flexibility and strength at col. 13, lines 24-40, such that it would have been obvious to employ the sensor of Franz on a fabric. It would have been obvious in view of Fukui to employ the ink of Kirby on the Fukui fabrics in order to detect minute changes, where both reference disclose using the devices on diaphragms for pressure sensing, and Kirby discloses using the ink and electrodes with different types of flexible supporting members at col. 4, lines 35-40.

9. Claims 18, 24, 30, 31 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. In view of Suski. Fukui discloses the claimed invention as noted above at Fig. 43 except the zones. Franz discloses different zones 364 as noted above, in order to have parallel sensors spread over the surface. Franz discloses such a sensor is useful for detecting generally the

position between two apparatus or a degree of bend at col. 3, lines 40-45. Fukui discloses the same type of use at col. 21, lines 5-67 where a wide variety of bend sensor applications are employed. It would have been obvious to employ the zones of Suski in the device of Fukui et al. for the purpose of using parallel resistors to detect a wider area of bend. Using the zones of

Suski in the Fukui Fig. 43 embodiment would result in the stitched fabric 81, both woven and nonwoven with fibers (claims 34-35) (col. 24, lines 15-26), to cover the electrodes 370 and zones 364 of Suski in the manner claimed. The fabric would be in intimate contact with the bottom surface of the electrodes, as viewed when one flips the device over.

10. Claims 15, 24 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suski in view of Franz. Suski discloses the claimed invention at Fig. 8 except for the active sensor zones 366 in contact with the upper surfaces of the electrode structures 370. Franz discloses at Fig. 1 employing the electrode structures first with the resistors on top thereof. It would have been obvious to employ the tactic where Franz teaches that is preferable at col. 5, lines 14-16 and there is only two choices for which layer goes first. Franz also discloses the electrode structure first at Fig. 10. For claims 24, and 33, the flexible 362 is a "fabric" where there is no definition of same.

11. Applicant's arguments filed 12/09/02 and 1/09/03 have been fully considered but they are persuasive only in part, or are moot. As to Fukui, the fabric is 81 at Fig. 43, the cloth 81 is stitched to the cloth 78 with electrodes "on top", where same is a relative term. The fabric has intimate contact with the electrode portions as seen by the stitching outlines 82, and 83 through the fabric 81 which is over the electrode portion 74'/75' (it appears that 75' is omitted for the Fig.

43 embodiment, but nonetheless, 74/75' can be considered the electrode). The device has all the claimed elements, so that it is a passenger detector. As to Kirby, the passage at col. 4, lines 35-40, as note above, suggests different types of flexible substrates and both Kirby and Fukui disclose use on diaphragms further suggesting the modification. Note Kurumatani et al.,

USPUB, cited to show that the term "fabric" can mean a plastic type substrate such as that of Franz.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703)308-3306. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703)308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7722. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703) 308-3306.


KARL D. EASTHOM
PRIMARY EXAMINER